

## Chapter 5

### Transportation and the Economy

Summary Statistics from Tables/Figures in this Chapter

Source		
Figure 5.1	Share of gasoline cost attributed to taxes, 2001	
	<i>Canada</i>	42%
	<i>France</i>	75%
	<i>Germany</i>	72%
	<i>Japan</i>	55%
	<i>United Kingdom</i>	74%
	<i>United States</i>	23%
Table 5.11	Average price of a new car, 2001 (current dollars)	
	<i>Domestic</i>	21,605
	<i>Import</i>	19,654
		27,477
Table 5.12	Automobile operating costs, 2001	
	<i>Variable costs (constant 2000 dollars per 10,000 miles)</i>	1,322
	<i>Fixed costs (constant 2000 dollars per 10,000 miles)</i>	4,493
Table 5.18	Transportation sector share of total employment	
	<i>1960</i>	13.5%
	<i>1980</i>	11.4%
	<i>1999</i>	11.0%





**Table 5.1**  
**Gasoline Prices for Selected Countries, 1978–2001**

	Current dollars per gallon								Average annual percentage change	
	1978 <sup>a</sup>	1982 <sup>a</sup>	1986 <sup>a</sup>	1990 <sup>b</sup>	1994 <sup>b</sup>	1996 <sup>b</sup>	2000 <sup>b</sup>	2001 <sup>b</sup>	1978–2001	1990–2001
China	c	c	c	c	c	0.93	1.21	c	c	c
India	c	c	c	1.92	2.28	2.25	c	c	c	c
Japan	2.00	2.60	2.79	3.05	4.14	3.77	3.65	3.80	2.8%	2.0%
France	2.15	2.56	2.58	3.40	3.31	4.41	4.01	3.68	2.4%	0.7%
United Kingdom	1.22	2.42	2.07	2.55	2.86	3.47	5.13	4.63	6.0%	5.6%
Germany	1.75	2.17	1.88	2.72	3.34	4.32	3.78	3.74	3.4%	2.9%
Canada	0.69	1.37	1.31	1.92	1.57	1.80	2.04	2.01	4.8%	0.4%
United States <sup>d</sup>	0.66	1.32	0.93	1.04	1.24	1.28	1.47	1.63	4.0%	4.2%

	Constant 2000 dollars <sup>e</sup> per gallon								Average annual percentage change	
	1978 <sup>a</sup>	1982 <sup>a</sup>	1986 <sup>a</sup>	1990 <sup>b</sup>	1994 <sup>b</sup>	1996 <sup>b</sup>	2000 <sup>b</sup>	2001 <sup>b</sup>	1978–2001	1990–2001
China	c	c	c	c	c	1.02	1.25	c	c	c
India	c	c	c	2.53	2.56	2.47	c	c	c	c
Japan	5.28	4.64	4.38	4.02	4.81	4.14	3.77	3.80	-1.4%	-0.5%
France	5.68	4.57	4.05	4.48	3.85	4.84	4.14	3.68	-1.9%	-1.8%
United Kingdom	3.22	4.32	3.25	3.36	3.32	3.81	5.30	4.63	1.6%	3.0%
Germany	4.62	3.87	2.95	3.58	3.38	4.74	3.91	3.74	-0.9%	0.4%
Canada	1.82	2.44	2.06	2.53	1.82	1.98	2.11	2.01	0.4%	-2.1%
United States <sup>d</sup>	1.74	2.36	1.46	1.37	1.44	1.40	1.52	1.63	-0.3%	1.6%

**Source:**

U.S. Department of Energy, Energy Information Administration, *International Energy Annual 2000*, Washington, DC, May 2002, Table 7.2 and annual.

(Additional resources: [www.eia.doe.gov](http://www.eia.doe.gov))

**Note:**

Comparisons between prices and price trends in different countries require care. They are of limited validity because of fluctuations in exchange rates; differences in product quality, marketing practices, and market structures; and the extent to which the standard categories of sales are representative of total national sales for a given period.

<sup>a</sup> Prices represent the retail prices (including taxes) for premium leaded gasoline. Prices are representative for each country based on quarterly data averaged for the year.

<sup>b</sup> Regular gasoline.

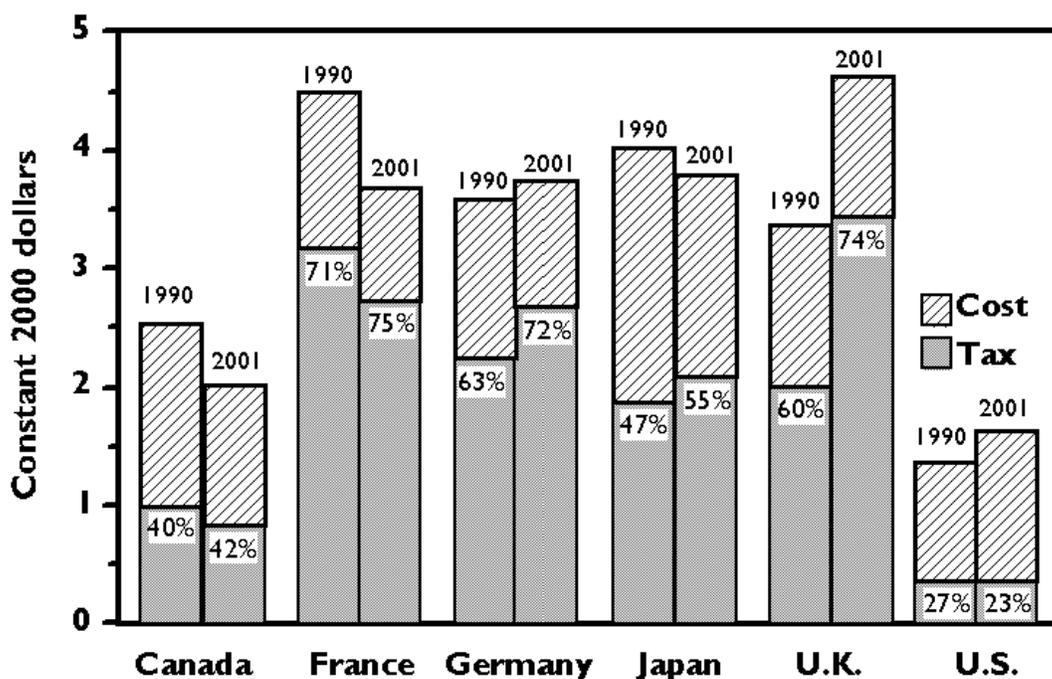
<sup>c</sup> Data are not available.

<sup>d</sup> These estimates are for international comparisons only and do not necessarily correspond to gasoline price estimates in other sections of the book.

<sup>e</sup> Adjusted by the U.S. Consumer Price Inflation Index.

*In 2001 more than seventy percent of the cost of gasoline in France, Germany, and the United Kingdom went for taxes. Of these countries, the U.S. has the lowest percentage of taxes.*

**Figure 5.1. Gasoline Prices for Selected Countries, 1990 and 2001**



**Source:**

Table 5.1 and International Energy Agency, *Energy Prices and Taxes, Fourth Quarter 2001*, Paris, France, 2002. (Additional resources: [www.iea.org](http://www.iea.org))





**Table 5.2**  
**Diesel Fuel Prices for Selected Countries, 1978–2001<sup>a</sup>**

	Current dollars per gallon								Average annual percentage change	
	1978	1982	1986	1990	1994	1996	2000	2001	1978–2001	1990–2001
China	b	b	b	b	b	0.88	1.27	b	b	b
India	b	b	b	0.78	0.74	0.92	b	b	b	b
Japan	b	1.78	1.90	1.75	2.48	2.51	2.89	2.70	b	4.0%
France	1.30	1.88	1.69	1.78	2.10	3.10	3.05	2.80	3.4%	4.2%
United Kingdom	1.24	2.05	1.71	2.04	2.46	3.26	4.77	4.42	5.7%	7.3%
Germany	1.48	1.81	1.51	2.72	2.16	3.02	2.90	2.91	3.0%	0.6%
Canada	b	1.27	1.27	1.55	1.47	1.43	1.68	1.80	b	1.4%
United States <sup>c</sup>	0.54	1.16	0.94	0.99	0.96	1.15	1.36	1.52	4.6%	4.0%

	Constant 2000 dollars <sup>d</sup> per gallon								Average annual percentage change	
	1978	1982 <sup>a</sup>	1986 <sup>a</sup>	1990 <sup>b</sup>	1994 <sup>b</sup>	1996 <sup>b</sup>	2000 <sup>b</sup>	2001 <sup>b</sup>	1978–2001	1990–2001
China	b	b	b	b	b	0.97	1.31	b	b	b
India	b	b	b	1.03	0.86	1.01	b	b	b	b
Japan	b	3.18	2.99	2.31	2.88	2.75	2.99	2.70	b	1.4%
France	3.43	3.35	2.66	2.35	2.44	3.40	3.15	2.80	-0.9%	1.6%
United Kingdom	3.27	3.66	2.69	2.69	2.86	3.58	4.93	4.42	1.3%	4.6%
Germany	3.91	3.23	2.37	3.58	2.51	3.31	3.00	2.91	-1.3%	-1.9%
Canada	b	2.27	2.00	2.04	1.71	1.57	1.74	1.80	b	-1.1%
United States <sup>c</sup>	1.43	2.07	1.48	1.30	1.12	1.26	1.41	1.52	-0.3%	1.4%

**Source:**

U.S. Department of Energy, Energy Information Administration, *International Energy Annual 2000*, Washington, DC, May 2002, Table 7.2 and annual. (Additional resources: [www.eia.doe.gov](http://www.eia.doe.gov))

**Note:**

Comparisons between prices and price trends in different countries require care. They are of limited validity because of fluctuations in exchange rates; differences in product quality, marketing practices, and market structures; and the extent to which the standard categories of sales are representative of total national sales for a given period.

<sup>a</sup> Prices represent the retail prices (including taxes) for diesel fuel. Prices are representative for each country based on quarterly data averaged for the year or on data as of January 1.

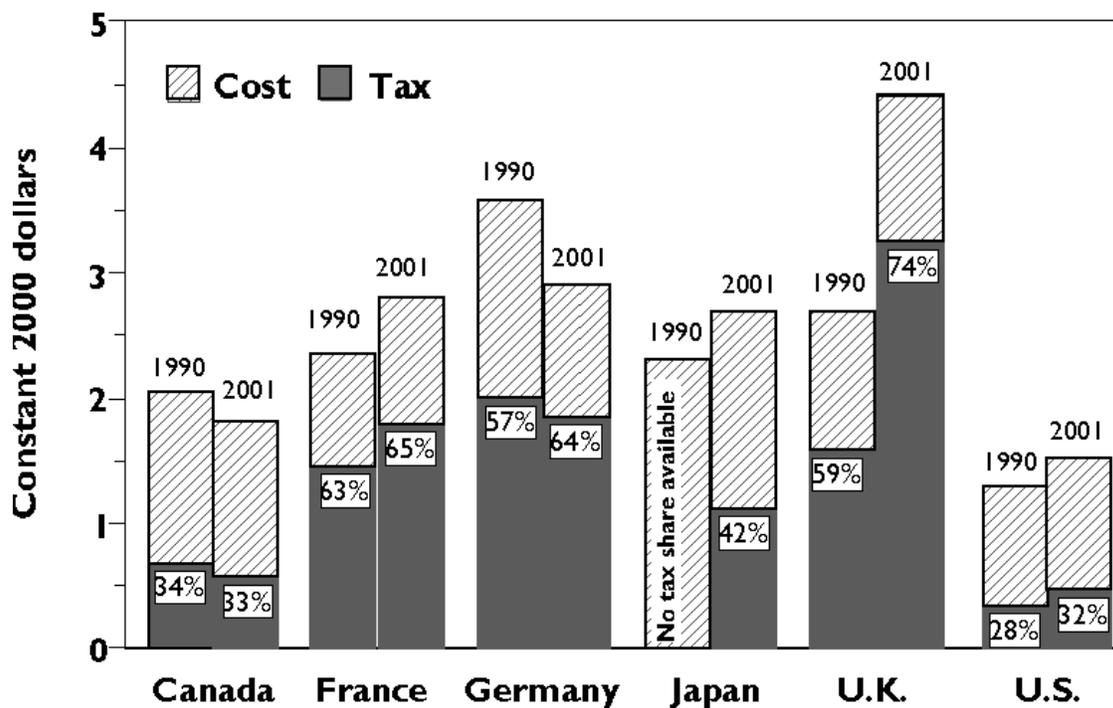
<sup>b</sup> Data are not available.

<sup>c</sup> These estimates are for international comparisons only and do not necessarily correspond to gasoline price estimates in other sections of the book.

<sup>d</sup> Adjusted by the U.S. Consumer Price Inflation Index.

*Diesel fuel is taxed heavily in the European countries shown here. The U.S. diesel fuel tax share is the lowest of the listed countries.*

Figure 5.2. Diesel Prices for Selected Countries, 1990 and 2001



**Source:**

Table 5.2 and International Energy Agency, *Energy Prices and Taxes, Fourth Quarter 2001*, Paris, France, 2002. (Additional resources: [www.iea.org](http://www.iea.org))



Though the cost of crude oil certainly influences the price of gasoline, it is not the only factor which determines the price at the pump. Processing cost, transportation cost, and taxes also play a major part of the cost of a gallon of gasoline. The average price of a barrel of crude oil (in constant 2000 dollars) rose by 69% from 1998 to 2001, while the average price of a gallon of gasoline increased only 26% in this same time period.

**Table 5.3**  
**Prices for a Barrel of Crude Oil and a Gallon of Gasoline, 1978–2001**

Year	Crude oil <sup>a</sup> (dollars per barrel)		Gasoline <sup>b</sup> (cents per gallon)		Ratio of gasoline to crude oil	
	Current	Constant 2000 <sup>c</sup>	Current	Constant 2000 <sup>c</sup>		
1978	12.5	32.9	65.2	172.2	219.8	
1979	17.7	42.0	88.2	209.2	209.1	
1980	28.1	58.7	122.1	255.2	182.7	
1981	35.2	66.8	135.3	256.3	161.3	
1982	31.9	56.9	128.1	228.6	168.8	
1983	29.0	50.1	122.5	211.8	177.5	
1984	28.6	47.5	119.8	198.6	175.7	
1985	26.8	42.8	119.6	191.4	187.8	
1986	14.6	22.9	93.1	146.3	268.7	
1987	17.9	27.1	95.7	145.1	224.5	
1988	14.7	21.4	96.3	140.2	275.7	
1989	18.0	25.0	106.0	147.2	247.7	
1990	22.2	29.3	121.7	160.3	230.0	
1991	19.1	24.1	119.6	151.2	263.5	
1992	18.4	22.6	119.0	146.1	271.2	
1993	16.4	19.6	117.3	139.8	300.2	
1994	15.6	18.1	117.4	136.4	316.3	
1995	17.2	19.5	120.5	136.2	293.7	
1996	20.7	22.7	128.8	141.2	261.2	
1997	19.0	20.4	129.1	138.5	284.8	
1998	12.5	13.3	111.5	117.8	372.6	
1999	17.5	18.0	122.1	125.2	291.3	
2000	28.3	28.3	156.3	156.3	232.0	
2001	23.1	22.5	153.1	148.9	278.4	
		<i>Average annual percentage change</i>				
1978–2001	2.7%	-1.6%	3.8%	-0.6%		
1991–2001	1.9%	-0.7%	2.5%	-0.2%		

**Sources:**

Crude oil - U.S. Department of Energy, Energy Information Administration, *Monthly Energy Review*, March 2002 Washington, DC, Table 9.1.

Gasoline - U.S. Department of Energy, Energy Information Administration, *Monthly Energy Review*, March 2002 Washington, DC, Table 9.4.

(Additional resources: [www.eia.doe.gov](http://www.eia.doe.gov))

<sup>a</sup>Refiner acquisition cost of composite (domestic and imported) crude oil.

<sup>b</sup>Average for all types. These prices were collected from a sample of service stations in 85 urban areas selected to represent all urban consumers. Urban consumers make up about 80% of the total U.S. population.

<sup>c</sup>Adjusted by the Consumer Price Inflation Index.



*Diesel fuel price is generally lower than gasoline; however, in 2001 the price of gasoline and diesel fuel were almost equal.*

**Table 5.4**  
**Retail Prices for Motor Fuel, 1978–2001**  
 (cents per gallon, including tax)

Year	Diesel fuel <sup>a</sup>		Average for all gasoline types <sup>b</sup>	
	Current	Constant 2000 <sup>c</sup>	Current	Constant 2000 <sup>c</sup>
1978	<sup>d</sup>	<sup>d</sup>	65	172
1979	<sup>d</sup>	<sup>d</sup>	88	209
1980	101	211	122	255
1981	118	224	135	256
1982	116	207	128	229
1983	120	207	123	212
1984	122	202	120	199
1985	122	195	120	191
1986	94	148	93	146
1987	96	146	96	145
1988	95	138	96	140
1989	102	142	106	147
1990	107	141	122	160
1991	91	115	120	151
1992	106	130	119	146
1993	98	117	117	140
1994	96	112	117	136
1995	97	110	121	136
1996	115	126	129	141
1997	129	138	129	139
1998	112	118	112	118
1999	97	100	122	126
2000	136	136	156	156
2001	152	148	153	149
	<i>Average annual percentage change</i>			
1978–2001	2.0% <sup>e</sup>	-1.7% <sup>e</sup>	3.8%	-0.6%
1991–2001	3.6%	0.5%	2.3%	-0.7%

**Source:**

Gasoline - U.S. Department of Energy, Energy Information Administration, *Monthly Energy Review*, 2002, Washington, DC, Table 9.4.

Diesel - U.S. Department of Energy, Energy Information Administration, *International Energy Annual 2000*, Washington, DC, May 2002, Table 7.2.

(Additional resources: [www.eia.doe.gov](http://www.eia.doe.gov))

<sup>a</sup>Collected from a survey of prices on January 1 of the current year.

<sup>b</sup>These prices were collected from a sample of service stations in 85 urban areas selected to represent all urban consumers. Urban consumers make up about 80% of the total U.S. population.

<sup>c</sup>Adjusted by the Consumer Price Inflation Index.

<sup>d</sup>Data are not available.

<sup>e</sup>Average annual percentage change is from the earliest year possible to 2000.



The fuel prices shown here are **refiner sales prices** of transportation fuels to end users, excluding tax. Sales to end users are those made directly to the ultimate consumer, including bulk consumers. Bulk sales to utility, industrial, and commercial accounts previously included in the wholesale category are now counted as sales to end users.

**Table 5.5**  
**Refiner Sales Prices for Propane and No. 2 Diesel, 1978–2001**  
**(cents per gallon, excluding tax)**

Year	Propane <sup>a</sup>		No. 2 diesel fuel	
	Current	Constant 2000 <sup>b</sup>	Current	Constant 2000 <sup>b</sup>
1978	33.5	88.5	37.7	99.6
1979	35.7	84.7	58.5	138.8
1980	48.2	100.7	81.8	170.9
1981	56.5	107.0	99.5	188.5
1982	59.2	105.6	94.2	168.1
1983	70.9	122.6	82.6	142.8
1984	73.7	122.1	82.3	136.4
1985	71.7	114.7	78.9	126.3
1986	74.5	117.1	47.8	75.1
1987	70.1	106.3	55.1	83.5
1988	71.4	103.9	50.0	72.8
1989	61.5	85.4	58.5	81.2
1990	74.5	98.2	72.5	95.5
1991	73.0	92.3	64.8	81.9
1992	64.3	78.9	61.9	76.0
1993	67.3	80.2	60.2	71.7
1994	53.0	61.6	55.4	64.4
1995	49.2	55.6	56.0	63.3
1996	60.5	66.4	68.1	74.7
1997	55.2	59.2	64.2	68.9
1998	40.5	42.8	49.4	52.2
1999	45.8	47.3	58.4	60.4
2000	60.3	60.3	93.5	93.5
2001	50.6	49.2	84.2	81.9
		<i>Average annual percentage change</i>		
1978–2001	1.8%	-2.5%	3.6%	-0.8%
1991–2001	-3.6%	-6.1%	2.7%	0.0%

**Source:**

U.S. Department of Energy, Energy Information Administration, *Monthly Energy Review*, March 2002, Washington, DC, Table 9.7.  
 (Additional resources: [www.eia.doe.gov](http://www.eia.doe.gov))

<sup>a</sup>Consumer grade.

<sup>b</sup>Adjusted by the Consumer Price Inflation Index.



*Average jet fuel prices jumped more than 30 cents per gallon from 1999 to 2000, but lowered again in 2001.*

**Table 5.6**  
**Refiner Sales Prices for Aviation Gasoline and Jet Fuel, 1978–2001**  
(cents per gallon, excluding tax)

Year	Finished aviation gasoline		Kerosene-type jet fuel	
	Current	Constant 2000 <sup>a</sup>	Current	Constant 2000 <sup>a</sup>
1978	51.6	136.3	38.7	102.2
1979	68.9	163.4	54.7	129.7
1980	108.4	226.5	86.6	181.0
1981	130.3	246.8	102.4	194.0
1982	131.2	234.1	96.3	171.8
1983	125.5	217.0	87.8	151.8
1984	123.4	204.5	84.2	139.5
1985	120.1	192.2	79.6	127.4
1986	101.1	158.8	52.9	83.1
1987	90.7	137.5	54.3	82.3
1988	89.1	129.7	51.3	74.7
1989	99.5	138.2	59.2	82.2
1990	112.0	147.6	76.6	100.9
1991	104.7	132.4	65.2	82.4
1992	102.7	126.1	61.0	74.9
1993	99.0	118.0	58.0	69.1
1994	95.7	111.2	53.4	62.0
1995	100.5	113.6	54.0	61.0
1996	111.6	122.5	65.1	71.4
1997	112.8	121.0	61.3	65.8
1998	97.5	103.0	45.2	47.8
1999	105.9	109.5	54.3	56.1
2000	130.6	130.6	89.9	89.9
2001	132.2	128.5	77.6	75.5
		<i>Average annual percentage change</i>		
1978–2001	4.2%	-0.3%	3.1%	-1.3%
1991–2001	2.4%	-0.3%	1.8%	-0.9%

**Source:**

U.S. Department of Energy, Energy Information Administration, *Monthly Energy Review*, March 2002, Washington, DC, Table 9.7.  
(Additional resources: [www.eia.doe.gov](http://www.eia.doe.gov))

<sup>a</sup>Adjusted by the Consumer Price Inflation Index.



**Table 5.7**  
**State Taxes on Motor Fuels, 2000**  
**(dollars per gallon or gasoline equivalent gallon)**  
 (Footnotes for this table appear on next page)

State	Gasoline	Diesel fuel	CNG	Propane	Methanol	Ethanol
Alabama	0.18	0.19	<sup>a</sup>	<sup>a</sup>	0.16 <sup>b</sup>	0.16 <sup>b</sup>
Alaska	0.08	0.08	0.08	0.00	0.08 <sup>b</sup>	0.04
Arizona	0.18	0.27	0.00	0.00	0.00	0.00
Arkansas	0.186	0.186	0.05 <sup>c</sup>	<sup>a</sup>	0.186	0.186
California	0.18	0.18	<sup>a</sup>	<sup>a</sup>	0.09	0.09
Colorado	0.22	0.205	<sup>a</sup>	<sup>a</sup>	0.205	0.17 <sup>b</sup>
Connecticut	0.36	0.18	0.18	0.18	0.37 <sup>b</sup>	0.35
Delaware	0.23	0.22	0.22	0.22	0.22	0.23
District of Columbia	0.20	0.20	0.20	0.20	0.20	0.20
Florida	0.13	0.25	<sup>a</sup>	<sup>a</sup>	0.04 <sup>b</sup>	0.04 <sup>b</sup>
Georgia	0.075	0.075	0.075	0.075	0.075	0.075
Hawaii	0.16	0.16	0.16	0.16	0.16	0.16
Idaho	0.25	0.25	0.197 <sup>d</sup>	0.181	0.25 <sup>b</sup>	0.23 <sup>b</sup>
Illinois	0.19	0.215	0.19	0.19	0.19 <sup>b</sup>	0.19 <sup>b</sup>
Indiana	0.15	0.16	<sup>a</sup>	<sup>a</sup>	0.15	0.15
Iowa	0.20	0.225	0.16 <sup>c</sup>	0.20	0.19 <sup>b</sup>	0.19 <sup>b</sup>
Kansas	0.18	0.20	0.17	0.17	0.20	0.20
Kentucky	0.164	0.134	0.15	0.15	0.15	0.15
Louisiana	0.20	0.20	<sup>a</sup>	<sup>a</sup>	0.20 <sup>b</sup>	0.20 <sup>b</sup>
Maine	0.19	0.20	0.18	0.18	0.18	0.18
Maryland	0.235	0.2425	0.235	0.235	0.235	0.235
Massachusetts	0.21	0.21	0.10	0.10	0.21	0.21
Michigan	0.19	0.15	0.0	0.15	0.15 <sup>b</sup>	0.025 <sup>b</sup>
Minnesota	0.20	0.20	0.174	0.15	0.114	0.142
Mississippi	0.184	0.184	0.184 <sup>c</sup>	0.17	0.18 <sup>b</sup>	0.18 <sup>b</sup>
Missouri	0.17	0.17	<sup>a</sup>	<sup>a</sup>	0.17 <sup>b</sup>	0.17 <sup>b</sup>
Montana	0.27	0.2775	0.07 <sup>e</sup>	<sup>a</sup>	0.27	0.27
Nebraska	0.246	0.246	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>
Nevada	0.2475	0.2775	0.21	0.2475 <sup>c</sup>	0.2475	0.2475
New Hampshire	0.195	0.195	0.195	0.195	0.195 <sup>b</sup>	0.195 <sup>b</sup>
New Jersey	0.105	0.135	0.0525	0.0525	0.105 <sup>b</sup>	0.105 <sup>b</sup>
New Mexico	0.188	0.198	<sup>a</sup>	<sup>a</sup>	0.22 <sup>b</sup>	0.22 <sup>b</sup>
New York	0.10 <sup>f</sup>	0.10 <sup>f</sup>	0.08 <sup>f</sup>	0.08 <sup>f</sup>	0.08 <sup>f</sup>	0.08 <sup>f</sup>
North Carolina	0.223	0.223	0.223	0.223	0.223	0.223
North Dakota	0.20	0.20	0.20	0.20	0.20 <sup>b</sup>	0.20 <sup>b</sup>
Ohio	0.22	0.22	0.22	0.22	0.22 <sup>b</sup>	0.21 <sup>b</sup>
Oklahoma	0.17	0.14	<sup>a</sup>	<sup>a</sup>	0.16 <sup>b</sup>	0.16 <sup>b</sup>
Oregon	0.24	0.24	0.24	0.24	0.24	0.24
Pennsylvania	0.12 <sup>g</sup>	0.12 <sup>g</sup>	0.12 <sup>g</sup>	0.12 <sup>g</sup>	0.12 <sup>g</sup>	0.12 <sup>g</sup>



**Table 5.7 (continued)**  
**State Taxes on Motor Fuels, 2000**  
**(dollars per gallon or gasoline equivalent gallon)**

State	Gasoline	Diesel fuel	CNG	Propane	Methanol	Ethanol
Rhode Island	0.29	0.29	0.0	0.29	0.29	0.29
South Carolina	0.16	0.16	0.16	0.16	0.16	0.16
South Dakota	0.21	0.21	0.06	0.16	0.06	0.19
Tennessee	0.20	0.17	0.13	0.17	0.17	0.17
Texas	0.20	0.20	<sup>a</sup>	<sup>a</sup>	0.20 <sup>b</sup>	0.20 <sup>b</sup>
Utah	0.245	0.245	0.04	0.04	0.04	0.04
Vermont	0.20	0.17	0.20	<sup>a</sup>	0.20	0.20
Virginia	0.18	0.16	0.10	0.10	0.18 <sup>b</sup>	0.18 <sup>b</sup>
Washington	0.23	0.23	<sup>a</sup>	<sup>a</sup>	0.23	0.23
West Virginia	0.2535	0.2535	0.2535	0.2535	0.2535	0.2535
Wisconsin	0.238	0.238	0.203	0.186	0.238	0.238
Wyoming	0.09	0.09	0.00	0.00	0.09 <sup>b</sup>	0.09 <sup>b</sup>

**Source:**

Energy Futures, Inc., *The Clean Fuels and Electric Vehicles Report*, Boulder, CO, December 2000, pp. 154–155.

<sup>a</sup> Annual flat fee.

<sup>b</sup> Blends with gasoline only.

<sup>c</sup> Per 100 ft<sup>3</sup>.

<sup>d</sup> Per therm.

<sup>e</sup> Per 120 ft<sup>3</sup>.

<sup>f</sup> Plus a petroleum business tax; the amount varies but is usually in the ballpark of \$0.12–\$0.14.

<sup>g</sup> Plus 0.1035 oil franchise tax.



*As of January 2001, only five states offered tax exemptions to encourage the use of gasohol for transportation purposes. This list is quite short compared to the 30 states which offered gasohol tax exemptions twenty years ago. Still, the Federal Government encourages gasohol use via a difference in the Federal tax rates of gasoline and gasohol.*

**Table 5.8**  
**State Tax Exemptions for Gasohol, October 2001**

State	Exemption (Cents/gallon of gasohol)
Alaska	8.0
Connecticut	1.0
Idaho	2.5
Iowa	1.0
South Dakota	2.0

**Source:**

U.S. Department of Transportation, Federal Highway Administration, "Monthly Motor Fuel Reported by the States, October 2001," February 2002, Washington, DC, Table MF-121T. (Additional resources: [www.fhwa.dot.gov](http://www.fhwa.dot.gov))

**Table 5.9**  
**Federal Excise Taxes on Motor Fuels**

Fuel		Cents per gallon
Gasoline		18.30
Diesel <sup>a</sup>		24.30
Gasohol	10% Ethanol	13.00
	7.7% Ethanol	14.24
	5.7% Ethanol	15.32
Gasohol	10% Methanol	12.40
	7.7% Methanol	13.78
	5.7% Methanol	14.98
Methanol	Qualified <sup>b</sup>	12.85
	Partially exempt <sup>c</sup>	9.20
Ethanol	Qualified <sup>b</sup>	12.85
	Partially exempt <sup>c</sup>	9.25
CNG		48.54/mcf <sup>d</sup>
LNG		18.30
Propane		13.60

**Source:**

Energy Futures, Inc., *The Clean Fuels and Electric Vehicles Report*, Boulder, CO, December 2000, p. 155.

<sup>a</sup> Reduced diesel rates are specified for marine fleets, trains and certain intercity buses. Diesel rates are also reduced for diesel/alcohol blends. Diesel used exclusively in state and local government fleets, non-profit organization vehicles, school buses and qualified local buses is exempt from Federal taxes.

<sup>b</sup>Qualified - contains at least 85 percent methanol or ethanol or other alcohol produced from a substance other than petroleum or natural gas.

<sup>c</sup>Partially exempt - 85 percent alcohol and produced from natural gas.

<sup>d</sup>Thousand cubic feet.



*These states currently offer extra incentives for ethanol production or consumption. In addition to these tax incentives, many states have regulations in place that State-owned vehicles must fuel with E10 (gasohol) whenever possible.*

**Table 5.10**  
**States With Ethanol Tax Incentives**

State	Ethanol tax incentives
AK	\$0.08/ethanol gallon (blender)
AR	Income tax credit for manufacturers of advanced biofuels—ethanol, methanol or any derivatives which are produced through biological means other than direct fermentation of a food crop
CA	E85 and M85 excise tax is half of the gasoline tax. Neat alcohol fuels are exempt from fuel taxes.
FL	County governments receive waste reduction credits for using yard trash, wood, or paper waste as feed stocks for fuel.
HI	4% ethanol sales tax exemption
ID	\$0.25 excise tax exemption for ethanol or biodiesel
IN	10% gross income tax deduction for improvements to ethanol producing facilities.
IL	Rebate offer for purchase of E85.
IA	\$0.01 (blender)
MN	\$0.20 (producer), \$0.058 excise tax exemption
MO	\$0.20 (producer), \$0.02 excise tax exemption
MT	\$0.30 (producer)
NE	\$0.20 (producer)
NC	Individual income and corporate tax credit of 20% for the construction of an ethanol plant using agricultural or forestry products; an additional 10% if the distillery is powered with alternative fuels.
ND	\$0.40 (producer), income tax credit for the construction of new fuel ethanol plants
OH	\$0.01 (blender), income tax credit
SD	Reduced fuel tax for alternative fuels
WY	\$0.40 (producer)

**Source:**

U.S. Department of Energy, *Clean Cities Guide to Alternative Fuel Vehicle Incentives and Laws*, 2nd edition, Washington, DC, November 1996 and updates from [www.fleets.doe.gov/fleet-tool.cgi?\\$\\$,benefits,1](http://www.fleets.doe.gov/fleet-tool.cgi?$$,benefits,1).  
(Additional resources: [www.cities.doe.gov](http://www.cities.doe.gov))



*In current dollars, import cars, on average, were less expensive than domestic cars until 1982. Since then, import prices have nearly tripled, while domestic prices have nearly doubled (current dollars).*

**Table 5.11**  
**Average Price of a New Car, 1970–2001**

Year	Domestic <sup>a</sup>		Import		Total	
	Current dollars	Constant 2000 dollars <sup>b</sup>	Current dollars	Constant 2000 dollars <sup>b</sup>	Current dollars	Constant 2000 dollars <sup>b</sup>
1970	3,708	16,457	2,648	11,752	3,542	15,720
1975	5,084	16,273	4,384	14,032	4,950	15,844
1980	7,609	15,901	7,482	15,636	7,574	15,828
1981	8,912	16,883	8,896	16,852	8,910	16,879
1982	9,865	17,604	9,957	17,768	9,890	17,648
1983	10,516	18,181	10,868	18,790	10,606	18,337
1984	11,079	18,362	12,336	20,445	11,375	18,853
1985	11,589	18,547	12,853	20,570	11,838	18,945
1986	12,319	19,355	13,670	21,478	12,652	19,878
1987	12,922	19,588	14,470	21,934	13,386	20,291
1988	13,418	19,532	15,221	22,156	13,932	20,280
1989	13,936	19,353	15,510	21,539	14,371	19,957
1990	14,489	19,090	16,640	21,924	15,042	19,818
1991	15,192	19,208	16,327	20,643	15,475	19,565
1992	15,644	19,201	18,593	22,820	16,336	20,050
1993	15,976	19,039	20,261	24,145	16,871	20,105
1994	16,930	19,672	21,989	25,550	17,903	20,802
1995	16,864	19,055	23,202	26,216	17,959	20,292
1996	17,468	19,171	26,205	28,760	18,777	20,608
1997	17,907	19,212	27,722	29,743	19,531	20,955
1998	18,479	19,522	29,614	31,285	20,364	21,513
1999	18,630	19,256	28,931	29,903	20,658	21,352
2000	18,684	18,684	27,767	27,767	20,355	20,355
2001	19,654	19,110	27,477	26,717	21,605	21,007
	<i>Average annual percentage change</i>					
1970–2001	5.5%	0.5%	7.8%	2.7%	6.0%	0.9%
1991–2001	2.6%	-0.1%	5.3%	2.6%	3.4%	0.7%

**Source:**

U.S. Department of Commerce, Bureau of Economic Analysis, *National Income and Product Accounts*, underlying detail estimates for Motor Vehicle Output, Washington, DC, 2002.

(Additional resources: [www.stat-usa.gov](http://www.stat-usa.gov))

<sup>a</sup>Includes transplants.

<sup>b</sup>Adjusted by the Consumer Price Inflation Index.



*The total cost of operating an automobile is the sum of the fixed cost (depreciation, insurance, finance charge, and license fee) and the variable cost (gas and oil, tires, and maintenance), which is related to the amount of travel. Though the variable cost of operating a car in 2001 was higher than 2000, the total cost declined due to lower fixed costs.*

**Table 5.12**  
**Automobile Operating Cost per Mile, 1985–2001**

Model year	Constant 2000 dollars per 10,000 miles <sup>a</sup>			Total cost per mile <sup>b</sup> (constant 2000 cents <sup>a</sup> )	Percentage gas and oil of total cost
	Variable cost	Fixed cost	Total cost		
1985	1,187	3,298	4,486	44.86	19.9%
1986	1,024	3,625	4,649	46.49	15.1%
1987	1,016	3,529	4,545	45.45	14.7%
1988	1,150	4,411	5,560	55.60	13.6%
1989	1,111	4,055	5,166	51.66	14.2%
1990	1,107	4,290	5,397	53.97	13.2%
1991	1,226	4,509	5,735	57.35	14.6%
1992	1,105	4,644	5,749	57.49	12.6%
1993	1,096	4,435	5,532	55.32	12.7%
1994	1,057	4,457	5,515	55.15	11.8%
1995	1,085	4,525	5,610	56.10	11.7%
1996	1,054	4,602	5,655	56.55	10.9%
1997	1,159	4,665	5,834	58.34	12.1%
1998	1,130	4,784	5,903	59.03	11.1%
1999	1,096	4,817	5,912	59.12	9.8%
2000	1,220	4,724	5,944	59.44	11.6%
2001	1,322	4,493	5,816	58.16	13.2%
	<i>Average annual percentage change</i>				
1985–2001	0.7%	2.0%	1.6%	1.6%	

**Source:**

American Automobile Association, *Your Driving Costs*, 2001 Edition, Heathrow, FL, and annual.  
(Additional resources: [www.aaa.com](http://www.aaa.com), [www.runzheimer.com](http://www.runzheimer.com))

<sup>a</sup> Adjusted by the Consumer Price Inflation Index.

<sup>b</sup> Based on 10,000 miles per year.





While the previous table shows costs per *mile*, this table presents costs per *year* for fixed costs associated with automobile operation. For 2001 model year autos, the fixed cost is almost \$15 per day.

**Table 5.13**  
**Fixed Automobile Operating Costs per Year, 1975–2001**  
**(constant 2000 dollars)<sup>a</sup>**

Model year	Fire & theft <sup>b</sup>	Collision <sup>c</sup>	Property damage & liability <sup>d</sup>	License, registration & taxes	Depreciation	Finance charge <sup>e</sup>	Total	Average fixed cost per day
1975	170	451	605	96	2,474		3,796	10.40
1980	146	359	518	171	2,169	884	4,249	11.64
1985	120	283	341	176	2,020	855	3,794	10.40
1986	135	300	365	204	2,074	1001	4,079	11.17
1987	132	297	382	194	2,265	797	4,067	11.14
1988	125	295	413	202	2,597	822	4,456	12.21
1989	142	325	429	200	2,802	817	4,715	12.92
1990	145	323	419	217	3,105	896	5,105	13.99
1991	137	312	446	212	3,166	1095	4,610	12.63
1992	157	351	458	214	3,335	977	5,491	15.05
1993	138	290	459	212	3,372	798	5,270	14.44
1994	143	286	465	225	3,416	753	5,288	14.49
1995	137	285	463	229	3,472	775	5,361	14.69
1996	158	302	468	236	3,479	788	5,431	14.88
1997	129	350	430	232	3,511	824	5,475	15.00
1998	142	303	506	239	3,554	859	5,602	15.35
1999	167	335	500	234	3,551	856	5,644	15.46
2000	163	326	481	223	3,492	849	5,534	15.16
2001	162	335	466	197	3,450	842	5,458	14.95
<i>Average annual percentage change</i>								
1975–2001	-0.2%	-1.1%	-1.0%	2.8%	1.3%	<sup>e</sup>	1.4%	1.4%
1991–2001	1.7%	0.7%	0.4%	-0.7%	0.9%	9.6%	1.7%	1.7%

**Source:**

American Automobile Association, "Your Driving Costs," 2001 Edition, Heathrow, FL, and annual. (Additional resources: [www.aaa.com](http://www.aaa.com), [www.runzheimer.com](http://www.runzheimer.com))

<sup>a</sup> Adjusted by the Consumer Price Inflation Index.

<sup>b</sup> \$50 deductible 1975 through 1977; \$100 deductible 1978 through 1992; \$250 deductible for 1993 – on.

<sup>c</sup> \$100 deductible through 1977; \$250 deductible 1978 through 1992; \$500 deductible for 1993 – on.

<sup>d</sup> Coverage: \$100,000/\$300,000.

<sup>e</sup> Data are not available.

**Table 5.14**  
**Economic Indicators, 1970–2001**  
**(billion dollars)**

Year	Gross National Product		Total transportation outlays		Transportation as a percent of GNP
	Current	Constant 2000 <sup>a</sup>	Current	Constant 2000 <sup>a</sup>	
1970	1,015.5	4,506.9	192.8	855.7	19.0%
1980	2,732.0	5,709.3	533.0	1,113.9	19.5%
1990	5,567.8	7,335.7	951.0	1,253.0	17.1%
2000	9,860.8	9,860.8	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>
2001	10,202.8	9,920.5	<sup>b</sup>	<sup>b</sup>	<sup>b</sup>

Year	Personal Consumption Expenditures		Transportation Personal Consumption Expenditures <sup>c</sup>		Transportation PCE as a percent of total PCE
	Current	Constant 2000 <sup>a</sup>	Current	Constant 2000 <sup>a</sup>	
1970	640.0	2,840.4	81.5	361.7	12.7%
1980	1,732.6	3,620.8	238.5	498.4	13.8%
1990	3,761.2	4,955.5	453.9	598.0	12.1%
2000	6,728.4	6,728.4	784.9	784.9	11.7%
2001	7,064.5	6,869.0	816.0	793.4	11.6%

**Sources:**

GNP - U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, April 2002, Table 1.9, p. D-4, and annual. (Additional resources: [www.bea.doc.gov](http://www.bea.doc.gov))

Transportation outlays - Eno Transportation Foundation, *Transportation in America 2000*, Eighteenth Edition, Lansdowne, VA, 2001, p. 1.

PCE - U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, April 2001, Table 2.2 and annual. (Additional resources: [www.bea.doc.gov/bea/scbinf.html](http://www.bea.doc.gov/bea/scbinf.html))

**Table 5.15**  
**Consumer Price Indices, 1970–2001**  
**(1970 = 1.000)**

Year	Consumer Price Index	Transportation Consumer Price Index <sup>d</sup>	New car Consumer Price Index	Used car Consumer Price Index	Gross National Product Index
1970	1.000	1.000	1.000	1.000	1.000
1980	2.122	2.216	1.667	1.995	2.690
1990	3.365	3.213	2.283	3.769	5.483
2000	4.438	4.088	2.694	4.994	9.710
2001	4.564	4.115	2.681	5.087	10.047

**Source:**

Bureau of Labor Statistics, Consumer Price Index Table 1A for 2001, and annual. [GNP—see above.] (Additional resources: [stats.bls.gov/cpihome.htm](http://stats.bls.gov/cpihome.htm))

<sup>a</sup> Adjusted by the implicit GNP price deflator.

<sup>b</sup> Data are not available.

<sup>c</sup> Transportation Personal Consumption Expenditures include user operating expenses (new and used auto purchases, gas and oil, repair, greasing, washing, parking, storage, rental, other motor vehicles, insurance premiums, tires, tubes and other parts); purchased intercity transportation; and purchased local transportation.

<sup>d</sup> Transportation Consumer Price Index includes new and used cars, gasoline, auto insurance rates, intracity mass transit, intracity bus fare, and airline fares.



*In 1999 there were 7.7 employees for every hundred vehicles sold in the U.S., according to estimates based on domestic light vehicle sales. Using the average domestic automobile price, estimates show 4.1 employees for every million dollars spent on light vehicles. This includes employees of motor vehicle parts manufacturers and tire manufacturers.*

**Table 5.16**  
**Motor Vehicle Manufacturing Employment Statistics, 1970-99**

Year	Motor vehicles, parts and tires manufacturing employees (thousands)	Sales of domestic light vehicles <sup>a</sup> (thousands)	Employees per hundred vehicles sold	Employees per million dollar expenditure (current)	Employees per million dollar expenditure (constant 1999 <sup>b</sup> )
1970	914	8,516	10.7	28.9	8.0
1975	892	9,106	9.8	19.3	7.4
1980	904	8,540	10.6	13.9	7.6
1981	841	7,954	10.6	11.9	7.1
1982	792	7,821	10.1	10.3	6.5
1983	875	9,313	9.4	8.9	5.9
1984	968	11,209	8.6	7.8	5.3
1985	964	11,896	8.1	7.0	4.9
1986	931	11,886	7.8	6.4	4.6
1987	928	10,866	8.5	6.6	4.9
1988	964	11,721	8.2	6.1	4.7
1989	941	11,181	8.4	6.0	4.8
1990	946	10,845	8.7	6.0	5.0
1991	870	9,732	8.9	5.9	5.0
1992	894	10,510	8.5	5.4	4.8
1993	919	11,729	7.8	4.9	4.4
1994	988	12,893	7.7	4.5	4.2
1995	1,051	12,792	8.2	4.9	4.6
1996	1,047	13,342	7.8	4.5	4.3
1997	1,063	13,143	8.1	4.5	4.4
1998	1,074	13,445	8.0	4.3	4.2
1999	1,098	14,289	7.7	4.1	4.1
<i>Average annual percentage change</i>					
1970-99	0.6%	1.8%	-1.1%	-6.5%	-2.3%
1989-99	1.6%	2.5%	-0.9%	-3.7%	-1.6%

**Source:**

Employees - Eno Transportation Foundation, *Transportation in America 2000*, Eighteenth Edition, Lansdowne, VA, 2001, pp. 32-35.

Sales - See Table 6.4. Expenditures - See Table 5.11.

**Note:**

2000 data were not available from the Eno Foundation when this document went to press.

<sup>a</sup> Vehicles produced in North America.

<sup>b</sup> Adjusted by the implicit Gross National Product price deflator.



*Employees of motor vehicle and related industries comprise 8.2% of the labor force. For employment in the entire transportation industry, see the next table.*

**Table 5.17**  
**Employees of Motor Vehicle and Related Industries, 1999**

	1999 Employees	Percent of total motor vehicle	Percent of total U.S. employment
Motor vehicle and equipment manufacturing	1,313,900	14.5%	1.2%
<i>Motor vehicles and equipment</i>	233,917	2.6%	0.2%
<i>Motor vehicle body &amp; trailer</i>	141,610	1.6%	0.1%
<i>Motor vehicle parts</i>	794,523	8.8%	0.7%
<i>Storage batteries</i>	23,057	0.3%	0.0%
<i>Tires</i>	64,810	0.7%	0.1%
<i>Rolled steel shape</i>	13,268	0.1%	0.0%
<i>Other transportation equipment</i>	42,715	0.5%	0.0%
Highway, street, bridge, and tunnel construction	284,368	3.1%	0.3%
Motor freight transportation and related services	2,331,536	25.7%	2.1%
<i>Trucking and courier services, except by air or by     the U.S. Postal Service</i>	1,962,546	21.7%	1.8%
Petroleum refining and wholesale distribution	226,072	2.5%	0.2%
Passenger transportation	965,337	10.7%	0.9%
Automotive sales and servicing	3,938,392	43.5%	3.6%
<b>Total of motor vehicle and related industries</b>	<b>9,059,605</b>	<b>100.0%</b>	<b>8.2%</b>
U.S. Total <sup>a</sup>	110,705,661		100.0%

**Source:**

U.S. Department of Commerce, Bureau of the Census, County Business Patterns web site: [tier2.census.gov/cbp/](http://tier2.census.gov/cbp/), April 2002. (Additional resources: [www.census.gov](http://www.census.gov))

<sup>a</sup> Data for employees of establishments totally exempt from FICA are excluded, as are self-employed persons, domestic service workers, railroad employees, agricultural production workers and most government employees.



*Eleven percent of employed civilians in 1999 worked in transportation or transportation-related industries; truck drivers and deliverymen made up 20% of that employment.*

**Table 5.18**  
**Employment in Transportation and Related Industries, 1960-99**  
**(persons in thousands)**

	1960	1965	1970	1975	1980	1985	1990	1995	1999
<u>Transportation Service</u>									
Air transport	191	229	351	362	453	537	968	1,068	1,227
Bus, intercity	41	42	43	39	38	36	26	24	21
Local transport	101	83	77	69	79	90	141	203	240
Railroads	885	735	627	538	532	346	279	238	230
Oil pipeline	23	20	18	17	21	19	19	15	13
Taxi	121	110	107	83	53	38	32	31	31
Trucking & truck materials	770	882	998	996	1,280	1,361	1,395	1,587	1,804
Water	232	230	215	190	211	185	177	175	187
<b>Total</b>	<b>2,364</b>	<b>2,331</b>	<b>2,436</b>	<b>2,294</b>	<b>2,667</b>	<b>2,598</b>	<b>3,036</b>	<b>3,340</b>	<b>3,753</b>
<u>Transportation Equipment Manufacturing</u>									
Aircraft & parts	646	624	669	514	652	647	712	451	495
Motor vehicles, equipment, tires	829	945	914	892	904	964	946	1,051	1,098
Railroad equipment	43	56	51	52	71	34	33	38	38
Ship & boat building & repair	141	160	170	194	221	193	188	160	162
Other transportation equipment	33	57	111	115	149	130	45	53	51
<b>Total</b>	<b>1,692</b>	<b>1,842</b>	<b>1,915</b>	<b>1,767</b>	<b>1,997</b>	<b>1,968</b>	<b>1,924</b>	<b>1,752</b>	<b>1,844</b>
<u>Transportation Related Industries</u>									
Automotive/accessory retail dealers	807	902	996	1,076	1,048	1,185	1,292	1,388	1,377
Automotive wholesalers	215	255	320	367	418	433	456	492	520
Automotive service & garages	251	324	384	400	571	730	926	981	1,341
Gasoline service stations	461	522	614	616	561	611	647	649	675
Highway & street construction	294	324	331	297	268	264	239	228	250
Petroleum <sup>a</sup>	311	292	333	390	533	568	513	429	445
Other industries									
Truck drivers & deliverymen	1,477	1,521	1,565	1,796	1,931	2,050	2,148	2,861	3,116
Freight handlers	365	411	456	613	622	574	504	536	625
<b>Total</b>	<b>4,181</b>	<b>4,551</b>	<b>4,999</b>	<b>5,545</b>	<b>5,952</b>	<b>6,415</b>	<b>6,725</b>	<b>7,564</b>	<b>8,349</b>
<u>Government Transportation Employees</u>									
U.S. Department of Transportation	38	45	66	75	72	61	67	63	64
Highways, state & local	499	550	568	569	532	549	569	560	543
U.S. Postal Service <sup>b</sup>	83	83	103	98	92	104	115	110	113
Other <sup>c</sup>	18	16	12	13	13	11	11	11	12
<b>Total</b>	<b>638</b>	<b>694</b>	<b>749</b>	<b>755</b>	<b>709</b>	<b>725</b>	<b>762</b>	<b>744</b>	<b>732</b>
<b>Total transportation employment</b>	<b>8,875</b>	<b>9,418</b>	<b>10,099</b>	<b>10,361</b>	<b>11,325</b>	<b>11,706</b>	<b>12,447</b>	<b>13,400</b>	<b>14,678</b>
<b>Total employed civilians</b>	<b>65,778</b>	<b>71,088</b>	<b>78,627</b>	<b>85,783</b>	<b>99,303</b>	<b>107,150</b>	<b>118,793</b>	<b>124,900</b>	<b>133,488</b>
Transportation percent of total	13.5%	13.2%	12.8%	12.1%	11.4%	10.9%	10.5%	10.7%	11.0%

**Source:**

Eno Transportation Foundation, *Transportation in America 2000*, Eighteenth Edition, Lansdowne, VA, 2001, pp. 32-35.

**Note:**

2000 data were not available from the Eno Foundation when this document went to press.

<sup>a</sup> Estimated by assuming transport share of total petroleum industry employment is same as transport share of petroleum domestic demand.

<sup>b</sup> Estimated share (approximately 14%) of total employees engaged in transportation work.

<sup>c</sup> Agencies include Civil Aeronautics Board (sunset in 1985), Federal Maritime Commission, Federal Energy Regulatory Commission, Interstate Commerce Commission, Railroad Retirement Board, and Panama Canal Commission.

